

**ORIGINAL**



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
NORTHEAST REGION  
One Blackburn Drive  
Gloucester, MA 01930-2298

JAN 23 2007

Magahe R. Salas, Secretary  
Federal Energy Regulatory Commission  
888 First St. NE, Room 1A  
Washington, D.C. 20426

Re: OEP/DG2E/Gas Branch 3  
Broadwater LNG Project  
Docket No. CP06-54-000  
CP06-55-000

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NATIONAL MARINE FISHERIES SERVICE  
NORTHEAST REGION

Dear Secretary Salas:

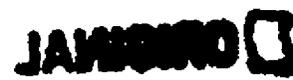
The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) has reviewed the draft environmental impact statement [DEIS] prepared for this project, which entails the proposed construction, installation, operation, and maintenance of a floating storage and regasification unit (FSRU) and appurtenant support and natural gas transmission facilities which collectively are being proposed by Broadwater Energy LLC and Broadwater Pipeline LLC [jointly termed hereafter as Broadwater]. The proposal generally is intended to establish a terminal capable of receiving imported LNG from seagoing carriers, storing and evaporating (regasifying) the LNG, and subsequently delivering natural gas to New York and Connecticut markets through a new subaqueous pipeline tying in to the existing Iroquois Gas Transmission System [IGTS]. If constructed, the FSRU would be supported and supplied by existing waterfront facilities on Long Island. Existing warehouse, office, and docking space with the capacity to berth up to four tugs has been identified for project support during construction and operation in either Greenport or Port Jefferson, New York.

Federal agencies that have jurisdiction by law or special expertise with respect to any environmental impact resulting from an agency action are required to comment on the DEIS. See 40 C.F.R. § 1503.2. NMFS maintains expertise and jurisdiction by law over the nation's living marine resources and offers the following comments and recommendations on the Broadwater LNG DEIS.

**Project Description**

Broadwater's conceptual design indicates that the proposed LNG terminal and regasification plant would be housed on a permanently moored vessel that is approximately 1,215 feet long, 200 feet wide, and 112 feet tall [with approximately 82 feet extending above the water line]. The vessel would be double-hulled and held in place at least nine miles offshore by a yoke and tower system [YMS] that would permit the





vessel to orient in response to prevailing winds, tides, and currents. The FSRU would have one berthing and unloading facility capable of serving carriers holding from 125,000 to 250,000 cubic meters of LNG, and a total storage tank capacity of 350,000 cubic meters.

Vaporization of the LNG would be accomplished using a closed loop system that heats the LNG using natural gas. Water intakes that supply ballast water for the FSRU and other facility needs are expected to draw approximately 5.5 million gallons per day. In addition to the industrial portions of the project, which largely entail LNG storage and regasification facilities, the FSRU also would be designed to house crew and areas dedicated to service functions. Finally, natural gas produced from the LNG stored on the FSRU would be delivered primarily to New York markets through approximately 21.7 miles of subaqueous pipeline installed between the FSRU and the existing IGTS. Significant project details, including the YMS design and final pipeline installation methodology, have not yet been finalized.

**General Comments**

Broadwater's LNG terminal is proposed to be constructed in Long Island Sound (LIS), a nationally significant estuary that lies between the Connecticut shoreline and Long Island, New York. This important habitat supports a wide variety of natural resources of concern to the National Marine Fisheries Service, notably lobsters and other crustaceans; abundant bivalve mollusk populations; diverse finfish species; and federally listed, endangered, or threatened wildlife. LIS also supports a spectrum of important recreational and commercial uses ranging from fisheries, boating, and transportation to a variety of utility installations. Maintaining these existing coastal zone uses is regionally important and consistent with the goals and objectives of the two states' coastal management programs. Resource agency comments on past installations of natural gas pipelines, telecommunications equipment, and electric transmission cables within LIS indicate the potential impacts that would accrue from constructing the Broadwater project.

Implications of Water Intakes and Discharges: While average water intake volume would be reduced through use of a closed-loop heating system featuring a system comprising eight closed-loop shell-and-tube vaporization system (STV) units, the operation, nonetheless, would require millions of gallons of water per day. Ballast water and all other seawater requirements would be met using four intakes positioned on the bottom of the FSRUs hull, approximately 40 feet below the water line. The intake position and screening are designed to reduce entrainment and impingement of macrofauna, but flow and volume needs do not permit that all species and life stages could be excluded from the intakes. Entrainment of fish or invertebrate eggs and larvae as well as small prey items is likely to be lethal and have consequences for aquatic resources on both the Connecticut and New York sides of LIS. In addition, impacts that result from proposed releases of treated ballast and other discharges should be characterized in greater detail.

The analysis of these impacts should be supplemented before the NEPA process is completed. In addition, the overall operation would require regular discharges of treated water back into LIS to adjust ballast water and related activities. While these would be subject to some level of Clean Water Act oversight, it remains to be seen whether suitable measures could be developed and subsequently implemented to protect aquatic life and habitats.

Implications of Benthic Habitat Disruption from Pipeline Installation: While FERC staff has developed a series of recommendations in the DEIS that could be used to reduce certain construction impacts, significant project design details have yet to be proposed. As a consequence, NMFS is not able to accept at this stage that the ecological implications of project construction, installation, and operation have been characterized adequately. In particular, key design features such as the YMS, the gas pipeline interconnects, and the final pipeline installation methods remain to be determined and could, therefore, not be assessed fully in the DEIS. NMFS knows from previous utility installations in LIS that significant issues can, and do, arise during construction. For instance, unexpected obstructions were encountered during the installation of the Transenergie Cross Sound Cable that significantly complicated project completion. While there are important differences in the generic impacts of installing this cable crossing with respect to those that would accrue from constructing the proposed Broadwater pipeline lateral, the example is instructive in that preliminary reconnaissance studies for other utilities have failed to disclose all potential obstructions that could complicate installation according to the proposed method. Similarly, installation of both the original IGTS crossing and the subsequent Eastchester lateral similarly posed challenges that were not anticipated in their respective NEPA analyses. Notably, even years post construction, benthic habitat in significant reaches of the Eastchester project did not recover as predicted in the NEPA analysis for that project and remains disturbed.

While we appreciate that FERC recognizes the importance of this issue and has recommended that Broadwater backfill the trench and otherwise address pipeline installation impacts, the DEIS does not provide details on how this would be accomplished and what the resulting impacts of the activities would be. In light of the difficulties experienced with utility crossings in LIS and potential for adverse impacts on the LIS lobster population, it is important that techniques which proved unsuccessful in the past not be relied on by the project proponents to address this issue. In addition, it is important that the adverse impacts associated with any of these construction techniques are evaluated fully before the NEPA process is concluded.

Limiting Access for Existing, Water-dependent Activities: NMFS notes the proposed safety zones that would be established around the FSRU and any tankers coming to deliver LNG would at least temporarily exclude traditional commercial and recreational uses of LIS. Commercial and recreational vessels would be prohibited from entering the permanent safety zone surrounding the FSRU and in the moving envelope surrounding approaching tankers. NMFS believes the safety zones are likely to displace commercial and recreational fishermen, particularly those operating in the eastern basin of LIS that rely on trawling or use of fixed gear. This displacement has the potential to create an

economic and social hardship for a number of fishermen. While the eastern basin and its offshore approaches would not be subjected to the permanent closure contemplated around the FSRU, lobstermen and other fishermen effectively would have to cease operations and move away to avoid a safety zone whenever a LNG tanker approached.

As indicated in the DEIS, LNG deliveries would occur on a very regular basis. This could disrupt some fishing operations to the point that they could no longer effectively tend their gear. The DEIS does not adequately assess the loss of access and economic impacts on commercial and recreational fisheries, particularly in the eastern basin and its approach. Similarly, the collateral losses that would accrue in both Connecticut and New York should recreational boating access become disrupted for the life of this project should be evaluated.

### **Threatened and Endangered Species**

Section 7 of the Endangered Species Act of 1973 (ESA), as amended, requires federal agencies to consult with NMFS to ensure that "any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or adversely modify or destroy [designated] critical habitat . . ." (*See also* 50 C.F.R. part 402). In previous correspondence regarding the Broadwater LNG terminal proposal, NMFS identified several species of sea turtles listed as endangered or threatened under the ESA that are known to occur in the vicinity of the proposed LNG terminal location. NMFS also indicated that, although not present at the immediate project location, endangered right, humpback, and fin whales may be present in offshore waters where they may be impacted by LNG carriers transiting to and from the proposed terminal. Due to the presence of listed species in the action area and the potential for the proposed activities to affect these species, NMFS also indicated that section 7 consultation would be necessary for the proposed project.

FERC has indicated that portions of the DEIS have been prepared to serve as the biological assessment (BA) for purposes of section 7 consultation. NMFS acknowledges this and has reviewed the DEIS for content related to endangered and threatened species. However, the section 7 consultation process is separate from NEPA, and as such, NMFS will provide complete endangered and threatened species comments under separate cover as part of the ESA consultation process.

The DEIS identifies the following potential effects to listed sea turtles and whales due to construction and operation of the Broadwater LNG terminal:

- Vessel collisions
- Habitat impacts (water quality, water temperature)
- Acoustic disturbance and harassment
- Destruction of benthic resources (impacts to prey resources)
- Fuel spills
- Impingement and entrainment during water intake

FERC has recommended that Broadwater develop additional mitigation measures in consultation with NMFS to address acoustic effects of pile driving activity and the risk of vessel collisions with listed species. NMFS agrees with this recommendation, and suggests that further information about pile driving activity is necessary in order to develop appropriate mitigation measures. In addition, NMFS recommends that the FEIS address the potential for increased marine debris due to the presence of the Broadwater facility and the potential for sea turtles to be adversely affected by ingestion of marine debris. NMFS looks forward to working with FERC to continue evaluating the effects of the proposed project on listed species through the section 7 consultation process.

### **EFH Comments**

As noted in the essential fish habitat (EFH) assessment included in the DEIS, LIS has been designated as EFH under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) for various life stages of 19 species with federal fishery management plans. The proposed project would have significant adverse effects on EFH primarily by altering many acres of benthic habitat in conjunction with pipeline installation, disrupting forage communities, operating water intake and discharge structures, and introducing chronic light and acoustic disturbances at the FSRU where presently there are none.

Our ability to assess potential impacts on EFH and associated marine resources was complicated by less than optimal information in this matter. In particular, important portions of the project have yet to be designed and their impacts analyzed. Section 305(b)(2) of the MSFCMA requires all federal agencies to consult with NMFS on any action authorized, funded, or undertaken by that agency that may adversely affect EFH. Included in this consultation process is the preparation of a complete and appropriate EFH assessment to provide necessary information on which to consult. As indicated in the foregoing discussions, NMFS finds it necessary to request additional information that we may provide final conservation recommendations. Accordingly, we are providing the following interim comments to guide FERC regarding EFH issues that remain to be addressed during the NEPA process. The following information needs are necessary:

1. Provide a definitive design and construction description for the YMS and pipeline interconnects for its proposed lateral between the FSRU and original IGTS pipeline.
2. Provide a description of how pipeline burial would be accomplished and an analysis of the impacts that would accrue using the proposed suite of methods. This analysis should include consideration of both physical and ecological impacts.
3. Provide a full assessment of water intake/discharge impacts on aquatic communities in LIS, including harvested species and their forage. This analysis should be extended to include a discussion of adverse effects to EFH for species with local designations. They should include any preliminary

environmental requirements that have emerged to address Clean Water Act issues.

4. FERC should supplement its EFH analysis to include an evaluation of all impacts that would accrue from the more advanced design criteria and also in conjunction with Broadwater's plan for meeting pipe burial, benthic restoration, and any other requirements recommended by FERC to meet NEPA objectives.

In addition to the above information, we would like to alert FERC to the probability that we would include among our EFH conservation recommendations a post-construction monitoring plan. This plan would include detailed benthic topography and benthic community data. In addition, we likely would recommend that a remedial plan is developed in advance to address areas that do not meet established performance standards.

These recommendations are necessary in order to supplement the EFH assessment before our NEPA coordination is concluded. When a complete assessment is received, we will provide FERC with conservation recommendations based upon the best available scientific information pursuant to Section 305(b)(4)(A) of the MSFCMA.

### **Fish and Wildlife Coordination Act Recommendations**

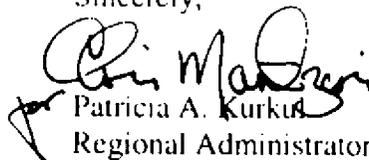
In addition to the many functions and values provided for federally managed fishery resources, the project area functions as an important migratory corridor for diadromous fishes, and as important spawning and nursery habitat for lobsters and other state-regulated aquatic resources. The DEIS should be revised to address whether or how this project could be implemented to avoid unacceptable habitat degradation. In addition, we note that project construction, installation, and operation would limit public access to the waterway and living aquatic resources. Given the significant efforts of the Federal Government, the States of New York and Connecticut, as well as interested members of the public to address environmental degradation and appropriate public use of LIS, FERC should address them in detail before concluding its NEPA assessment.

### **Conclusions**

In summary, NMFS recommends that FERC expand its NEPA assessment to cover key ecological and related coastal zone issues more fully. We also recommend that Broadwater be required to provide FERC with more complete project information than the present, relatively conceptual design, in order that the impacts are more fully understood before a certification decision is made. In light of the project's potential to impair habitat values and functions as well as interfere with existing water dependent uses, it is our opinion that it is premature for us to make final project recommendations until the necessary information becomes available. We look forward to our continued coordination concerning this project pursuant to both Section 305(b)(4)(B) of the MSA and 50 CFR 600.920(k), as well as Section 7 of the Endangered Species Act. Should you

have any questions about this matter, please contact Diane Rusanowsky (203-882-6504) for habitat conservation and NEPA issues and Kristin Koyama (978-281-9300 x6531) for any questions regarding our protected resources coordination.

Sincerely,

  
Patricia A. Kurkus  
Regional Administrator

cc: FERC: Gas 3, PJ-11.3  
USACE – CENAN  
USEPA – Region 1&2  
USFWS – NYFO & LIFO  
NMFS – Milford, Sandy Hook, PRD  
NYSDEC – Albany & Region 1  
NYSDOS -- Albany